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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,068	11/19/2003	Hui-Leng Lim	40116/03601	7235

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EXAMINER	
LE, DANH C	

ART UNIT	PAPER NUMBER
2683	

DATE MAILED: 03/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/717,068	LIM ET AL.	
	Examiner	Art Unit	
	DANH C. LE	2683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17,20 and 21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,10-13,16,17,20 and 21* is/are rejected.

7)☒ Claim(s) *8,9,14 and 15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103 - SET I.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. **Claims 1, 4, 5, 7, 10, 11-13, 16, 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rada (US 6,847,330) in view of Kim (US 2003/0083097).**

As to claim 1, Rada teaches an access point for wireless communication (figure 7), comprising:

a housing including at least one module receiving slot and a first wireless communication radio, the first radio communicating with a first wireless device utilizing a first frequency band; and

a removable module configured for insertion into the module receiving slot, the module including a second antenna utilizing a second frequency band so that, when the removable module is inserted into the slot, the access point is capable of communicating with a second antenna device utilizing at least one of the first and second frequency bands.

Rada fails to teach the second antenna including the second radio communication. Kim teaches the second antenna including the second radio communication (figure 1, 16). Therefore, it would have been obvious to one of ordinary

skill in the art at the time the invention was made to provide the teaching of Kim into the system of Rada in order to receive both low speed and high speed data as Kim suggested.

As to claim 4, Rada teaches the access point according to claim 1, wherein when communications over the first frequency band utilize 802.11a technology, communications over the second frequency band utilize one of 802.11b and 802.119 technology, and wherein when communications over the first frequency band utilize one of the 802.11b and 802.119 technology, communications over the second frequency band utilize the 802.11a technology (col.2, lines 24-36).

As to claim 5, Rada teaches the access point according to claim 1, wherein when the removable module is inserted into the slot, the second radio establishes an electrical connection with a circuitry of the housing (figure 7).

As to claim 7, Rada teaches the access point according to claim 1, further comprising:

a plurality of first antenna connectors connected to the first radio, wherein the module includes a plurality of the second antenna connectors connected to the second radio (figure 7).

As to claim 10, Rada teaches the access point according to claim 1, wherein when the removable module is inserted into the slot, a circuitry of the housing performs an initialization procedure to initiate utilization of resources of the removable module (figure 10).

As to claim 11, Rada teaches a wireless access point (figure 7), comprising:

a first module including a first wireless communication radio communicating utilizing a first frequency band; and

a housing including first and second receiving slots, the first module being mounted in a first receiving slot of the housing, the second receiving slot being capable of receiving a second removable module, the second module including a second antenna communicating utilizing a second frequency band,

wherein when the second module is inserted into the second slot, the access point is capable of communicating with a wireless device utilizing at least one of the first and second frequency bands.

Rada fails to teach the second antenna including the second radio communication. Kim teaches the second antenna including the second radio communication (figure 1, 16). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Kim into the system of Rada in order to receive both low speed and high speed data as Kim suggested.

As to claim 12, Rada teaches the access point according to claim 11, wherein the first module is permanently mounted in the first slot (figure 7).

As to claim 13, Rada teaches the access point according to claim 11, wherein when communications over the first frequency band utilize 802.11a technology, communications over the second frequency band utilize one of 802.11b and 802.119 technology, and wherein when communications over the first frequency band utilize one

of the 802.115 and 802.119 technology, communications over the second frequency band utilize the 802.11a technology (col.2, lines 24-36).

As to claim 16, Rada teaches a wireless communication access point (figure 7), comprising:

a first wireless radio communicating on a first frequency band;

a housing including at least one module receiving slot and housing the radio; and

at least one module selectively insertable into and removable from the slot, the module including one of an internal antenna and an external antenna for the first radio.

Rada fails to teach a second wireless radio communicating on a second frequency band. Kim teaches a second wireless radio communicating on a second frequency band (figure 1, 16). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Kim into the system of Rada in order to receive both low speed and high speed data as Kim suggested.

As to claim 20, Rada teaches the access point according to claim 19, wherein when communications over the first frequency band utilize 802.11a technology, communications over the second frequency band utilize one of 802.11b and 802.11g technology, and wherein when communications over the first frequency band utilize one of the 802.11b and 802.119 technology, communications over the second frequency band utilize the 802.11a technology (col.2, lines 24-36).

As to claim 21, Rada teaches the access point according to claim 16, wherein when the module is inserted into the slot, a circuitry of the housing performs an initialization procedure to initiate utilization of resources of the module (figure 10).

2. **Claims 2, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rada in view of Engstrom (US 20030104791).**

As to claim 2, Rada teaches the access point according to claim 1, Rada fails to teach the housing include at least one cover covering the corresponding receiving slot and the removable module including a further cover which has shape substantially similar the shape of the cover, and wherein when the removable module is inserted into the slot, the cover is removed and the slot is covered with the further cover. Engstrom teaches the housing include at least one cover covering the corresponding receiving slot and the removable module including a further cover which has shape substantially similar the shape of the cover, and wherein when the removable module is inserted into the slot, the cover is removed and the slot is covered with the further cover (paragraph 77, 81). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Engstrom into the system of Rada in order to add one or more peripheral to the device.

As to claim 17, the limitation of claim 17 is the same limitation of claim 2; therefore, the claim is interpreted and rejected as set forth as claim 2.

3. **Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rada and Engstrom in view of Bae (US 2004/0224646).**

As to claim 3, the combination of Rada and Engstrom teaches the access point according to claim 2, the combination of Rada and Engstrom fails to teach the housing, the cover and the further cover are composed of substantially the same material. Bae teaches the housing, the cover and the further cover are composed of substantially the same material (paragraph 22). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Bae into the system of Rada and Engstrom in order to save the production cost.

4. **Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rada in view of Yokoshima (US 2002/0118143).**

As to claim 6, Rada teaches the access point according to claim 5, Rada fails to teach the second radio establishes the connection with the circuitry using a parallel connection. Yokoshima teaches the connection with the circuitry using a parallel connection (abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Masaki into the system of Rada in order to increase the antenna gain.

Claim Rejections - 35 USC § 103 – SET II

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 1-3, 5-7, 10-11, 16, 17 ,21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohwaki (US 5,913,173) in view of Kim (US 2003/0083097).**

As to claim 1, Ohwaki teaches an access point for wireless communication (figure 1, 2), comprsing:

a housing including at least one module receiving slot and a first communication radio, the first radio communicating with a first wireless device utilizing a first frequency band; and

a removable module configured for insertion into the module receiving slot, the module including a second communication radio utilizing a second frequency band so that, when the removable module is inserted into the slot, the access point is capable of communicating with a second device utilizing at least one of the first and second frequency bands.

Ohwaki fails to teach the radio communications are the wireless communication. Kim teaches the radio communications are the wireless communication (figure 1). Kim teaches the second antenna including the second radio communication (figure 1, 16). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Kim into the system of Ohwaki in order to receive the high speed data rate service.

As to claim 2, Ohwaki teaches the access point according to claim 1, wherein the housing include at least one cover covering the corresponding receiving slot and the removable module including a further cover which has a shape substantially similar to the shape of the cover, and wherein when the removable module is inserted into the slot, the cover is removed and the slot is covered with the further cover.

As to claim 3, Ohwaki teaches the access point according to claim 2, wherein the housing, the cover and the further cover are composed of substantially the same material.

As to claim 5, Ohwaki teaches the access point according to claim 1, wherein when the removable module is inserted into the slot, the second radio establishes an electrical connection with a circuitry of the housing.

As to claim 6, Ohwaki teaches the access point according to claim 5, wherein the second radio establishes the connection with the circuitry using a parallel connection.

As to claim 7, Ohwaki and Kim teaches the access point according to claim 1, further comprising: a plurality of first antenna connectors connected to the first radio,

wherein the module includes a plurality of the second antenna connectors connected to the second radio.

As to claim 10, Ohwaki and Kim teaches the access point according to claim 1, wherein when the removable module is inserted into the slot, a circuitry of the housing performs an initialization procedure to initiate utilization of resources of the removable module.

As to claim 11, the claim is a system of claim 1; therefore the claim is interpreted and rejected as set as claim 1.

As to claim 16, the claim is an apparatus of claim 1; therefore the claim is interpreted and rejected as set as claim 1.

As to claim 17, the combination of Ohwaki and Kim teaches an access point according to claim 16, wherein the housing include at least one cover covering the

corresponding receiving slot and the module including a further cover which has a shape substantially similar to the shape of the cover, and wherein when the module is inserted into the slot, the cover is removed and the slot is covered with the further cover.

As to claim 21, Ohwaki and Kim teaches an access point according to claim 16, wherein when the module is inserted into the slot, a circuitry of the housing performs an initialization procedure to initiate utilization of resources of the module.

6. **Claims 4, 13, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohwaki (US 5,913,173) in view of Kim (US 2003/0083097) and Rada .**

As to claims 4, 13, 20, Ohwaki and Kim teaches access point according to claim 1, Ohwaki and Kim fails to teach when communications over the first frequency band utilize 802.1 la technology, communications over the second frequency band utilize one of 802.1 lb and 802.11 g technology, and wherein when communications over the first frequency band utilize one of the 802.11 b and 802.11 g technology, communications over the second frequency band utilize the 802.11a technology. Rada teaches when communications over the first frequency band utilize 802.1 la technology, communications over the second frequency band utilize one of 802.1 lb and 802.11 g technology, and wherein when communications over the first frequency band utilize one of the 802.11 b and 802.11 g technology, communications over the second frequency band utilize the 802.11a technology. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Rada into the system of Ohwaki and Kim in order to enhance the performance of the radio frequency device.

Allowable Subject Matter

Claims 8, 9, 14, 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claims 8, 9, 14, 15, the teaching of above prior arts either alone or in combination fails to teach a plurality of external antennas and at least internal antenna module including an internal antenna,

wherein the external antenna and the at least one internal antenna module are connectable to the first and second radio using the first and second antenna connectors.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANH C. LE whose telephone number is 571-272-7868. The examiner can normally be reached on 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WILLIAM TROST can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 5, 2006.

DANH CONG LE
PRIMARY EXAMINER